SANITARY FIXTURE DETERMINATION WORKSHEET

Total building design occupancy = _____ (determined from IBC 1003.2.2)

Building occupancy which most closely resembles the use of the space (list each separately) (Caution: Table 2902.1 uses may be more exact than general use groups of IBC chapter 3)

As in the past, a submitter may document an actual occupancy load, rather than the load determined strictly by square footage, to the building reviewer for consideration of a reasonable number of toilet fixtures. In no case, will the reviewer accept less than 50% capacity or less than the seating indicated on the plans, except possibly via the petition for variance process.

OCCUPANCY		WATER CLOSETS			LAVATORIES		TUB/SHOWER		D F	OTHER
Type	Number People	Factors	Fixtures # Male	Fixtures # Female	Factor	Number Fixtures	Factor	Number Fixtures	Number Fixtures	List the Type

_____

Total = _____ (this number should equal building total shown at top on this page)

Round fractions up to a whole number or to one decimal place, if shared facilities are used.

Note that urinals may be substituted for up to 50% of water closets for men per COMM 62.2902(1)(a).

COMPLIANCE CHECK	Men		Women	Lavatories	Bath Tub/ Shower	Drinking Fountain	Other (List)
	Urinals	Water Closets	Water Closets				
REQUIRED							
PROVIDED							

See IBC 2902.2 & 2902.3 for special exceptions, as well as COMM 62.2902 special restrictions.

SANITARY FIXTURE WORKSHEET INSTRUCTIONS

Total building design occupancy = _____ (determined from IBC 1003.2.2)

This number can be determined by occupant load worksheet. That worksheet should be completed first, then this worksheet can be filled in with the information from that sheet.

Building occupancy which most closely resembles the use of the space (list each separately) (Caution: Table 2902.1 uses may be more exact than general use groups of IBC chapter 3)

Note that the occupancy names used in Table 2902.1 and in Table 1003.2.2.2 may not match the general names for the occupancy found in IBC Chapter 3 or the specific label of a space on the plan set. The completion of the table below with the name of the occupancy and the factor for each fixture type will make it clear to plan examination staff how the design used was viewed in terms of grouping the occupancy. If a particular room on the plans has a designation that does not clearly match one of the occupancies found in Table 2902.1, then the occupancy closest to the use of that room should be utilized.

OCCUPANCY	**WATER CLOSETS**				**LAVATORIES**		**TUB/SHOWER**		**D F**	**OTHER**
Type	**Number People**	**Factor**	**Fixtures # Male**	**Fixtures # Female**	**Factor**	**Number Fixtures**	**Factor**	**Number Fixtures**	**Number Fixtures**	**List the Type**
Education	80	50	0.8	0.8	50	2	NA	0	1	Service sink
Museum	200	125/65	0.8	1.6	200	1	NA	0	1	Service sink

In the above table are two lines from the example on the next page. The first line shows numbers for a daycare space. Because there is no entry in Table 2902.1 labeled for daycare, the label and factors for Educational from Table 2902.1 are used. Number is the occupancy taken from Table 1003.2.2.2 for "Educational" sub-group "Classroom area", as it best approximates the type and usage of daycare. Thus a 40' x 40' daycare divided by 20 SF/person is the 80 occupants for that space.
The next line shows the children's museum entry as being under the assembly main heading in the third row of Table 2902.1 for Museums. The number is based on the "Assembly without fixed seats" and "Unconcentrated" sub-group, as this best describes the Children's Museum assembly use of that space. The 60' x 50' museum space divided by 15 SF/person is the 200 occupants entered there.

Under the next main column of "water closets" we see on the first line one water closet per 50 persons. As 50 does not evenly divide into 80 occupants (40 men and 40 women), the number of fixtures must be rounded upward to one decimal place for the fraction of the fixture. Also note that the second entry has two different numbers for the factor column. The first number is the requirement for male water closets and the second number for female water closets. In this case, the 200 persons are first divided into 100 males and 100 females, and then applied to the table. As 100 males are only a fraction of one fixture, list that fraction to one decimal place if sharing common toilet facilities or else the values is rounded-up to one if the space has it's own toilet facilities. Similarly the 100 females are slightly over 1.5 fixtures, thus it is rounded-up to 1.6 water closets for the women. Note that when no varied male & female numbers are required by Table 2902.1, then the total is calculated and divided equally to each sex at that time. If a space has self-contained toilet fixtures, then round all fractions to the next (higher) whole number.

The other fixture types are calculated in a similar manner. See the sample on the next page.

WORKSHEET SAMPLE

Assume a one story building with common toilet facilities in the center contains a 300 seat restaurant, a 120' x 100' office, a 200' x 200' warehouse, a 200' x 75' grocery store, a 40' x 40' daycare, and a 60' x 50' children's museum. How many fixtures of each type are required? Are there special restrictions on these fixtures?

SANITARY FIXTURE DETERMINATION WORKSHEET

Total building design occupancy = _1280____ (determined from IBC 1003.2.2)

Building occupancy which most closely resembles the use of the space (list each separately) (Caution: Table 2902.1 uses may be more exact than general use groups of IBC chapter 3)

OCCUPANCY		WATER CLOSETS			LAVATORIES		TUB/SHOWER		D F	OTHER
Type	**Number People**	**Factor**	**Fixtures # Male**	**Fixtures # Female**	**Factor**	**Number Fixtures**	**Factor**	**Number Fixtures**	**Number Fixtures**	**List the Type**
Restaurant	300	75 / 75	2	2	200	1.5	NA	0	0.6	Service sink
Office	120	50	1.2	1.2	80	1.5	NA	0	1.2	Service sink
Warehouse	80	100	0.4	0.4	100	0.8	NA	0	0.1	Service sink
Mercantile	500	500	0.5	0.5	750	0.7	NA	0	0.5	Service sink
Education	80	50	0.8	0.8	50	1.6	NA	0	0.8	Service sink
Museum	200	125/65	0.8	1.6	200	1	NA	0	0.4	Service sink

Total = 1280_ (this number should equal building total shown at top on this page)

The water closet density factor in IBC Table 2902.1 is usually the same number for males and females, but when they are different, both density factors are shown as illustrated above for museum occupancy.

*Note that urinals may be substituted for up to 50% of water closets for men per COMM 62.2902(1)(a).

*Note all numbers are added together in each column and then the **total is rounded to a whole number**.*

COMPLIANCE CHECK	Men		Women	Lavatories	Bath Tub/ Shower	Drinking Fountain	Other (List)
	Urinals	Water Closets	Water Closets				
REQUIRED	3*	3	7	8	0	4	Service sink
PROVIDED							

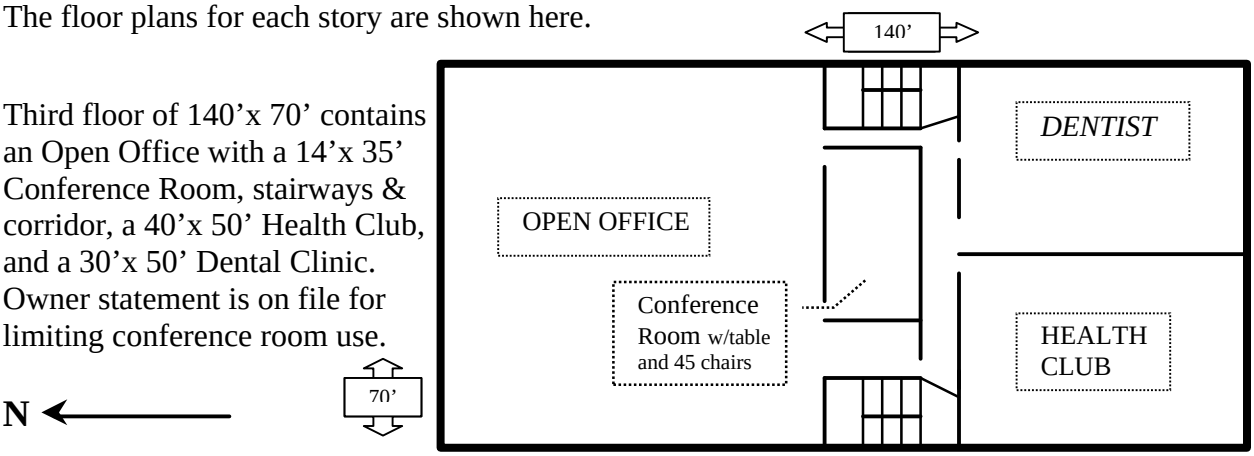
(fill in actual fixture numbers from plans here)

How many fixtures of each type are required? **The numbers are shown in the table above**.
Are there any special restrictions on these fixtures? **Yes.** IBC 2902.2 & 2902.3 require separate sex fixtures for most occupancies and evenly divided where not specifically sex designated by code. Also COMM 62.2902 also has other restrictions on distribution and location of fixtures.

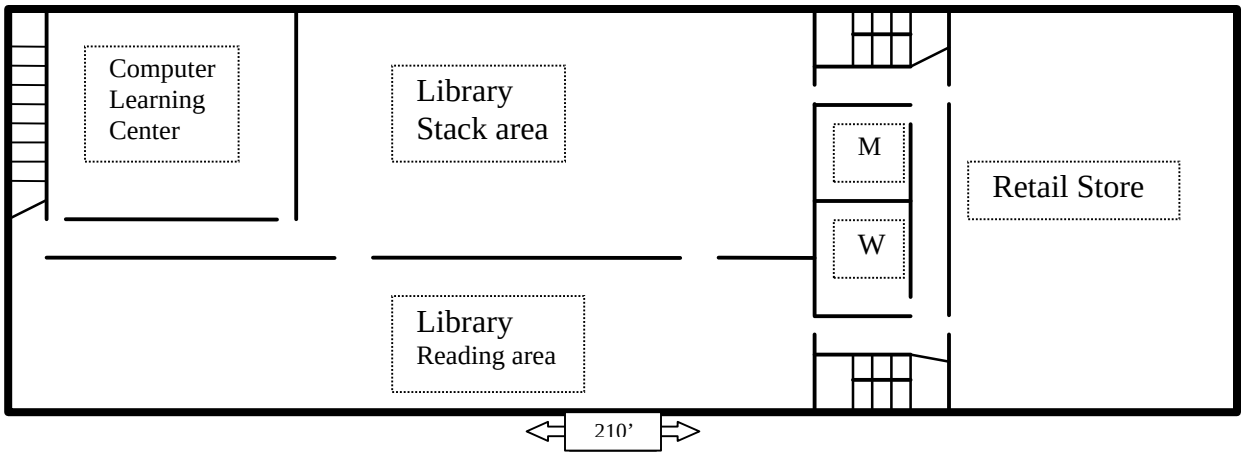
EXAMPLE

A multiple occupancy building with common toilets is shown below as three stories in height. The floor plans for each story are shown here.

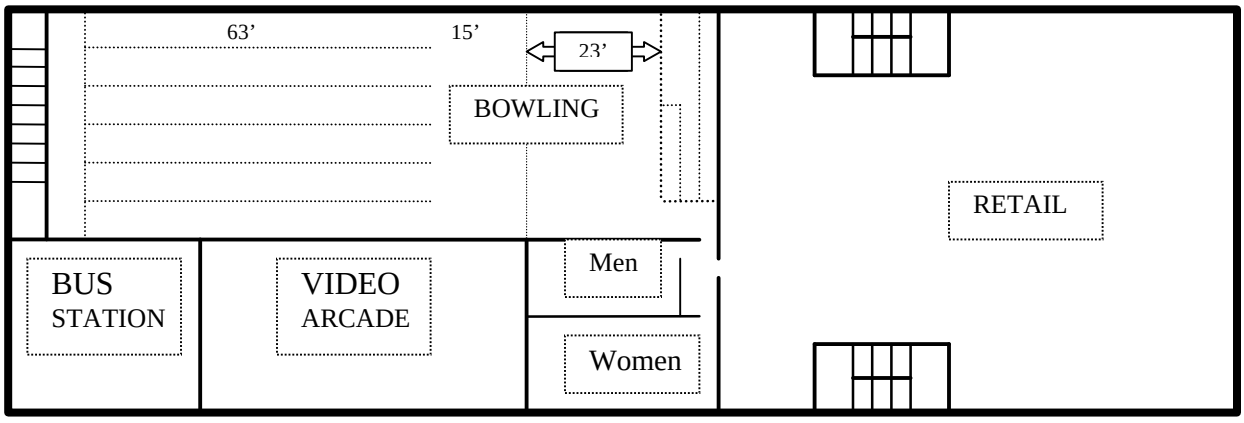
Third floor of 140'x 70' contains an Open Office with a 14'x 35' Conference Room, stairways & corridor, a 40'x 50' Health Club, and a 30'x 50' Dental Clinic. Owner statement is on file for limiting conference room use.



Second floor as shown below contains a 40'x 43' Computer Learning Center, a Library with 45'x 90' stack area & 25'x 140' reading area, a 50'x 70' Retail store, corridor and 2 toilet rooms.



First floor shown below includes Bowling alley with 6 lanes with 23'x 40' additional public area, a 33'x 30' Bus Station, a 56'x 30' Video Arcade, two toilet rooms, and a 90'x 70' Retail store. Bowling alley also rents as a wedding reception hall, by putting a temporary floor over the lanes.



EXAMPLE (continued)

Totals for number of people were from the Occupant Load Worksheet for this building and are placed directly into the table shown below.

SANITARY FIXTURE DETERMINATION WORKSHEET

Total building design occupancy = __**1165**____ (determined from IBC 1003.2.2)

Building occupancy which most closely resembles the use of the space (list each separately)
(Caution: Table 2902.1 uses may be more exact than general use groups of IBC chapter 3)

Open Office & Dentist

OCCUPANCY		WATER CLOSETS			LAVATORIES		TUB/SHOWER		D F	OTHER
Type	**Number People**	**Factors**	**Fixtures # Male**	**Fixtures # Female**	**Factor**	**Number Fixtures**	**Factor**	**Number Fixtures**	**Number Fixtures**	**List the Type**
Offices	119	50	1.2	1.2	80	1.5	-	0	1.2	Service sink
Assembly Halls H Cl	40	125/65	0.2	0.4	200	0.2	-	0	0.1	Service sink
Education	86	50	0.9	0.9	50	1.8	-	0	0.9	Service sink
Assembly Halls Libr.	116	125/65	0.5	0.9	200	0.6	-	0	0.3	Service sink
Mercantile	321	500	0.4	0.4	750	0.5	-	0	0.4	Service sink
Banquet Bowling Alle	264	75/75	1.8	1.8	200	1.4	-	0	0.6	Service sink
Terminals	66	500	0.1	0.1	750	0.1	-	0	0.1	Service sink
Assembly Hall arcade	153	125/65	0.7	1.2	200	0.8	-	0	0.4	Service sink

Combined second & first floor retail

Total = _**1165**_ (this number should equal building total shown at top on this page)

Note that urinals may be substituted for up to 50% of water closets for men per COMM 62.2902(1)(a).

COMPLIANCE CHECK	Men		Women	Lavatories	Bath Tub/ Shower	Drinking Fountain	Other (List)
	Urinals	Water Closets	Water Closets				
REQUIRED	3	3	7	7	0	4	Service sink
PROVIDED	5	3	8	9	0	4	Service sink

OKAY

See IBC 2902.2 & 2902.3 for special exceptions, as well as COMM 62.2902 special restrictions.

Note that in this example common toilet rooms are shown on both the first and second floor. As the third floor has access to the second floor facilities, this meets IBC Section 2902.6 & 2902.5 requiring that public & employee toilet facilities be not more than one story above or below the area served.